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REPORT

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INFORMATION FROM

FOREIGN DOCUMENTS OR RADIO BROADCASTS

CD NO.

COUNTRY	USSR
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DATE OF INFORMATION 1950

SUBJECT Medical - Novocain block

HOW PUBLISHED Weekly newspaper

DATE DIST. 29 Jun 1950

WHERE
PUBLISHED Moscow

NO. OF PAGES 2

DATE
PUBLISHED 1 Jun 1950

SUPPLEMENT TO
REPORT NO.

LANGUAGE Russian

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SOURCE Meditsinskiy Rabotnik, No 22, 1950.

THE MOST IMPORTANT LINK OF PATHOGENIC THERAPY

Prof A. Vishnevskiy

[A Digest]

It seems a paradox that a local anesthetic like novocain is capable of producing nerve irritations. However, the assumption of this type of novocain action is in agreement with N. E. Vvedenskiy's view that a narcotized nerve is the seat of a peculiar excitation -- a view which was shared by I. P. Pavlov. It has been shown by Vvedenskiy's and Ukhtomskiy's school that a weak irritation brings back to normal the functions of a nerve in the state of parabiosis. A. V. Vishnevskiy has proposed various types of the novocain block as a suitable method of bringing about weak irritations of the nervous system.

Blocking not only interrupts the reflex arc by chemical neurotomy, e.g., in the case of the vagosympathetic block in pleuropulmonary shock, but has an effect on the trophic functions of the whole nervous system. It is understandable that therapeutic action is most pronounced at the local site of affliction where the nerves are in a state of pathological irritation. A. V. Vishnevskiy concluded on the basis of clinical observations that methods of inducing irritation such as the novocain block, intravenous injection of methylene blue, or application of oil-balsam emulsion must be regarded as forms of non-specific therapy. Methods of this type, which mobilize the powers of resistance of the whole organism, should not be applied alone, but in combination with specific therapy designed to exterminate or weaken microorganisms causing the infection.

The accusation that the new school of therapy believes in panaceas must be rejected as unjustified. It is recognized that the novocain block is effective only in certain well-defined pathological conditions. For example, good results were obtained by applying the novocain block in cases of nonspecific inflammations (lymphangitis, suppurating infection of the fingers and hands, carbuncle, mastitis, peritoneal inflammatory infiltration, etc.) and in conditions connected with disturbances of the muscle tonus (dynamic forms of

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intestinal obstruction, contracture of joints of a reflectory or myofibrotic (literally, "produced by a myogen scar" character). The fact that the novocain block has a trophic influence on the permeability of capillaries explains its therapeutic effect in traumatic edema of the brain, some allergic afflictions of the joints, toxic edemas caused by snake bite, and post-transfusion hemolytic shock.

The methods mentioned above tend to remove or neutralize strong nerve irritations and to replace them with weak irritations. From this point of view, we approached chirurgically and clinically Pavlov's teaching on the protective braking action exerted by the gray matter of the brain, an action which shields nerve cells from destructive exhaustion in cases of strong nervous irritation. For a number of years we have systematically investigated the therapeutic effect of drug-induced sleep, using this method of treatment in the same pathological conditions which respond by a positive trophic shift to the application of a novocain block. This includes acute and sub-acute inflammatory processes, burns, frostbite, and allergic afflictions of the joints. It is interesting to note that application of drug-induced sleep resulted, as a rule, in the same regular trophic shifts as those produced by the novocain block: edemas were eliminated, inflammations of the serum infiltration type healed, and centers of suppuration were isolated and dissolved rapidly. This means that action on the central nervous apparatus may produce the same trophic shifts at the local source of affliction as irritation of peripheral nerves. The only requirement is that the irritation be of the weak, "protective" type.

Local injections of novocain have been used to expedite the healing of post-operational wounds, and the results were uniformly successful when the proper technique was applied.

The methods of nonspecific therapy discussed here have an important bearing on the current discussion of nervism, because the results obtained by applying them demonstrate the organizing function of the nervous system in the development of pathogenic processes.

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